Analysis of the ATCase catalysis within the amino acid metabolism of the human malaria parasite Plasmodium falciparum

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CHAPTER 6
CONCLUSION

In this work the enzyme aspartate carbamoyltransferase from *P. falciparum* has been characterize which is the second enzyme of the pyrimidine biosynthesis. This enzyme is essential for the parasite, have a trimer/hexamer conformation in solution and the active sites reside in the interphases between two subunits. Active site mutations do not have an influence on the protein assembly and enables Protein Interference Assays (PIA) in the parasite. Applied PIA show that a deficiency of *Pf*ATCase has a knock-down phenotype on the proliferation of the parasite which proves again that PIA are an excellent method to test essentiality in in vivo experiments.

Furthermore, we demonstrated the mechanism of action of the potent drug Torin2, which opens several options for the design of new compounds against *Pf*ATCase and *Pf*PRSase.